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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/768,885	01/23/01	MORELAND T	BFGH.P0210US

EXAMINER	
JEFFERY, J	
ART UNIT	**PAPER NUMBER**
3742	

DATE MAILED: 09/07/01

QM02/0907
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/768885	Moreland et al
Examiner	**Group Art Unit**
Jeffery	3742

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on 6/29/01.

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-32 is/are pending in the application.

Of the above claim(s) 1-12 & 24-28 is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 13-23 and 29-32 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The proposed drawing correction, filed on 6/29/01 is ☒ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____.

Attachment(s)

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

Applicant's election with traverse of claims 13-23 drawn to a method of making an electrically heated deicer panel in Paper No. 6 is acknowledged. Apparently, in view of the amendments made to the independent claims, the previous telephonic election made without traverse on 3/20/01 to prosecute the invention of Group II directed to the method of making an electrically heated deicer panel has been withdrawn. The newly-added traversal is on the ground(s) that "the deicer panel could not be made without the stitched heater layer being joined to the inner support surface and the and the [*sic*] outer cover layer." (Remarks, P. 5) This is not found persuasive because the claimed method recites a specific chronological order of assembly steps which do not necessarily have to be followed in the recited sequence to fabricate the panel recited in the apparatus claims. For example, in claim 13, the stitching step must occur prior to joining the inner support layer, the heater layer, and the cover layer together. However, one could, *inter alia*, (1) join the inner support layer and the heater layer together, (2) stitch the electrically conductive strand in the heater layer, and then (3) join the cover layer thereto.

The requirement is still deemed to be proper and is therefore made FINAL.

This application contains claims 1-12 and 24-28 drawn to an invention non-elected with traverse in Paper No. 5. A complete response to the final rejection must include cancellation of non-elected claims or other appropriate action (37 CFR 1.144) MPEP 821.01.

The disclosure is objected to because of the following informalities:

In view of newly added Fig. 6, the specification must be amended accordingly to include (1) a brief description of newly added Fig. 6, and (2) reference to the new figure in the detailed description section. Applicant is cautioned against the inclusion of new matter.

Claim 1: In line 7, no antecedent basis exists for "the inner support surface."

Claims 13-15, 29, and 30 are objected to because of the following informalities:

Claim 13: In the last line, "to" must be inserted after "layer."

Appropriate correction is required.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligations under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 13, 14, and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfenninger, Jr. (US2643320) in view of Bloomer (US1142393). Pfenninger, Jr. (US2643320) discloses in Figs. 1-3 an aircraft deicer panel (Col. 1, lines 35-44) with an "inner support layer" 19, "heater layer" 12 with an electrically conductive wire disposed thereon, an "outer cover layer" 19, and a thermal conducting layer 18 disposed therebetween. The claims differ from the previously cited prior art in calling for stitching the heating wire to the heater layer. While the heating wire affixed to the heating layer in Pfenninger, Jr. (US2643320) is not stitched, stitching a heater wire to a core-like heater layer in a planar heating pad is conventional and well known in the art as evidenced by Bloomer (US1142393) noting Figs. 1 and 2 wherein heater wire 2 is stitched to the heater layer 1 via dielectric strand 4. According to Page 1, line 24, a sewing machine can be used. Also, on Page 1, lines 33-38 and lines 97-106, sewing the element to the heater layer provides a faster method of affixing the element as well as facilitating the use of a larger quantity of heating wire per unit area as compared with conventional wire mounting techniques. In view of Bloomer (US1142393), it would have been obvious to one of ordinary skill in the art to affix the electric heater to the heater layer by stitching in the previously described apparatus in order to provide a faster method of affixing the element as well as facilitating the use of a larger quantity of heating wire per unit area as compared with conventional wire mounting techniques.

Claims 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfenninger, Jr. (US2643320) in view of Bloomer (US1142393) and further in view of JP2000-106268. The claims differ from the previously cited prior art in calling for a programmable sewing machine to automatically stitch the heating element. Providing an automatically controlled sewing machine adapted to stitch

different patterns via a control circuit is conventional and well known in the art as evidenced by JP2000-106268 noting the Abstract wherein an electric heater wire 2 is sewn via an automatically controlled sewing machine so that a plurality of patterns can be sewn via the same apparatus. In view of JP2000-106268, it would have been obvious to one of ordinary skill in the art to provide an automatically controlled sewing machine to sew the electric heater of the previously described apparatus so that a plurality of patterns can be sewn via the same apparatus.

Claims 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfenninger, Jr. (US2643320) in view of Bloomer (US1142393) and further in view of Jones (US2599059). The claims differ from the previously cited prior art in calling for cementing the bondside surface of the inner support layer to the surface of the aircraft. Cementing an electrically heated deicer panel to the wing of an aircraft is conventional and well known in the art as evidenced by Jones (US2599059) noting Fig. 1 wherein the electrically heated deicer panel is cemented to the wing via rubber cement so that secure engagement of the panel with the wing is assured thereby (1) avoiding undesired lifting of the panel therefrom and (2) precluding the need for additional attachment structures. See Col. 8, lines 42-68. In view of Jones (US2599059), it would have been obvious to one of ordinary skill in the art to cement the aircraft deicer panel of the previously described apparatus to an aircraft wing so that secure engagement of the panel with the wing is assured thereby (1) avoiding undesired lifting of the panel therefrom and (2) precluding the need for additional attachment structures ultimately reducing the number of apparatus parts and simplifying assembly.

Applicant's arguments filed 6/29/01 have been fully considered but they are not deemed to be persuasive. The examiner acknowledges Applicant's side-by-side comparison of Pfenninger's and Bloomer's respective heater images on Page 7 of the remarks. Applicant's main contention is that "...if wire density was an issue...the applied art would motivate one of ordinary skill in the art to stick with a non-stitched arrangement." Applicant argues that by comparing Fig. 2 of Pfenninger with Fig. 1 of Bloomer, it is, according to Applicant, Pfenninger's non-stitched pattern which appears to use a larger quantity of heating wire per unit area.

Certainly, the meandering, zig-zag pattern of Pfenninger is more densely spaced together than the sinuous pattern of Bloomer. However, the examiner in the rejection was not suggesting that Bloomer's sinuous pattern, taken in the longitudinal plane of the heater wire, used a larger quantity of heater wire per unit area. The examiner was merely suggesting that the attachment technique of stitching a heater wire to an underlying substrate, as opposed to other attachment

techniques, provides the added benefit of providing more heater wire per unit area than if the heater wire were not stitched.

This benefit is expressly stated by Bloomer. On Page 1, lines 33-38, Bloomer states:

> [I]t is apparent that the resistance conductor so attached to the body of the pad will be quickly affixed thereto with a maximum amount of surface or length of conductor in proportion to a minimum space. (emphasis added.)

Furthermore, Bloomer on Page 1, lines 97-107 notes:

> ...[B]y employing the strand as a sewing element...[the pad's] utility and lasting qualities are proportionately greater, due to the fact that in stitching the strand a greater number of feet of resistance conductor in a given length is obtained than in such pads wherein the conductor is laid thereon and secured in an ordinary manner. (emphasis added.)

As noted by Bloomer, stitching a heater pattern involves not only configuring the heater in the plane of the underlying substrate, but also disposes the heater wire transverse to the plane of the underlying substrate. This is best seen in Fig. 2 of Bloomer. In that figure, the heater wire not only has a horizontal component that is parallel to the plane of the substrate surface, but the wire also has a vertical component in a direction transverse to the substrate surface which is a result of the stitching process.

It is this combination of vertical and horizontal components of the heater wire itself which gives rise to the increased heater wire per unit area of the substrate. That is, for a given surface area, a stitched heater mounting, with its requisite horizontal and vertical heater path components necessarily requires more wire per unit area than a heater securement utilizing only a substantial horizontal component. This distinction was inferred by Bloomer in the second quoted passage above.

Therefore, if the sinuous pattern of Pfenninger were stitched as suggested by Bloomer in lieu of Penninger's attachment technique, one would have a heater that not only was securely mounted to the underlying substrate, but also have a heater that would provide more heat per unit surface area.

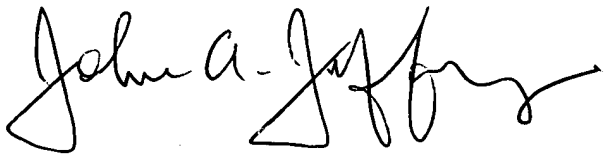
Thus, in view of Bloomer, it would have been obvious to one of ordinary skill in the art to stitch the sinuous heater pattern of Pfenninger in lieu of his attachment technique in order to provide a faster method of affixing the element as well as facilitating the use of a larger quantity of heating wire per unit area as compared with conventional wire mounting techniques.

Applicant's amendment necessitated the new grounds of rejection. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO A FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 CFR 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Any inquiry concerning this or earlier communications from the examiner should be directed to John A. Jeffery at telephone number (703) 306-4601 or fax (703) 305-3463. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM EST. The examiner can also be reached on alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.



JOHN A. JEFFERY
PRIMARY EXAMINER

9/6/01

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability Extensions of time may NOT be obtained under the provisions of 37 CFR 1 136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made other than correction of informalities, unless the examiner has approved the proposed changes

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a)

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.